



American Center for Mobility
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House of Representatives
Transportation & Infrastructure Committee
Aug. 22, 2017

Laurel Champion

Chief Operating Officer
American Center for Mobility

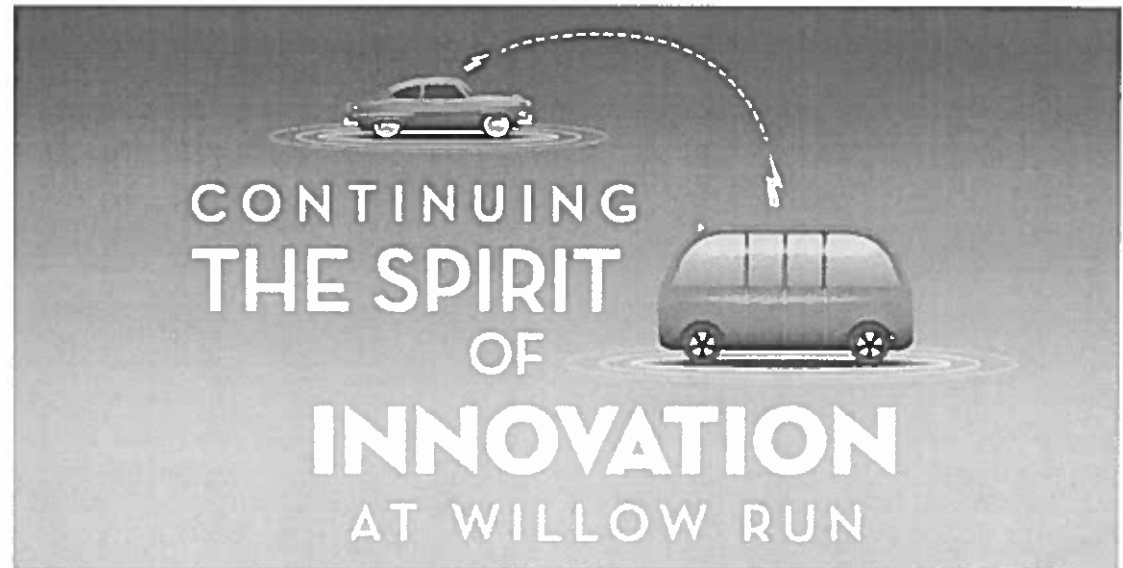


CONTINUING THE SPIRIT OF
INNOVATION AT WILLOW RUN



What is the American Center for Mobility?

- A not-for-profit, USDOT nationally designated test facility
- Product development, testing and validation
- Acceleration of voluntary standards
- Education and training of the workforce



A U.S. Designated Automated Vehicle Proving Ground



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Connected & Automated Vehicles (CAV)

- **Technology is moving fast**
- **Significant technical and policy challenges remain**
 - including methods for safe testing, validation and verification
- **Voluntary standards are needed**
 - and later, regulation
- **Education is critical**



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Pillars of Activities

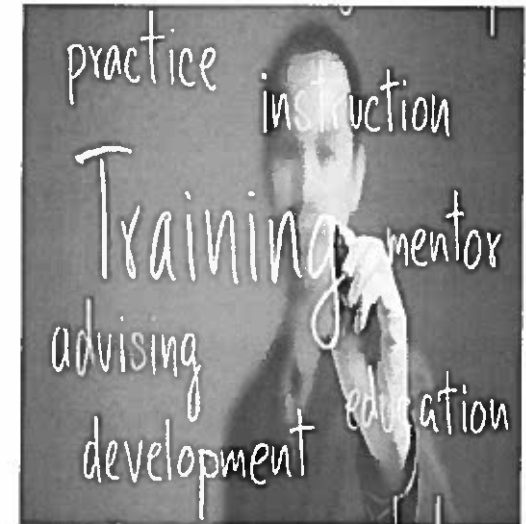
TESTING



STANDARDS



EDUCATION



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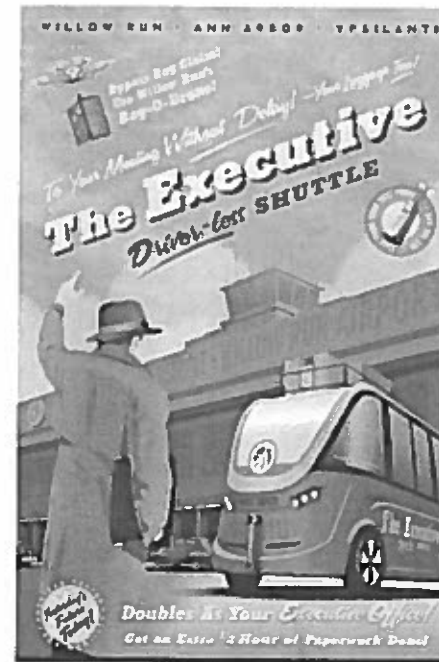
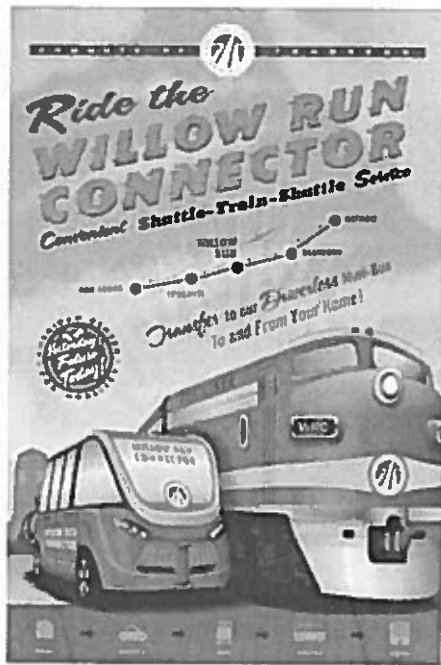
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Willow Run - a history of innovation



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Modern concepts with a touch of history



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A BlankSlate: 500+ acres

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Draft - CONFIDENTIAL

Highway test environment:

- 2.4 mile loop
- 1.5 mile safety track
- 65-70mph
- On and Off-ramps
- Triple overpasses
- Multiple merging scenarios
- 2/3/4/5 lanes
- 700' tunnel on bend
- Environmental simulation
- 300m, 500 radius bends
- Multiple pull off areas

Real world test environments:

- Highway
- Urban
- Rural
- Off-road
- Commercial
- Residential

Network:

- DSRC
- 4G LTE
- 5G
- Cloud
- Traffic control

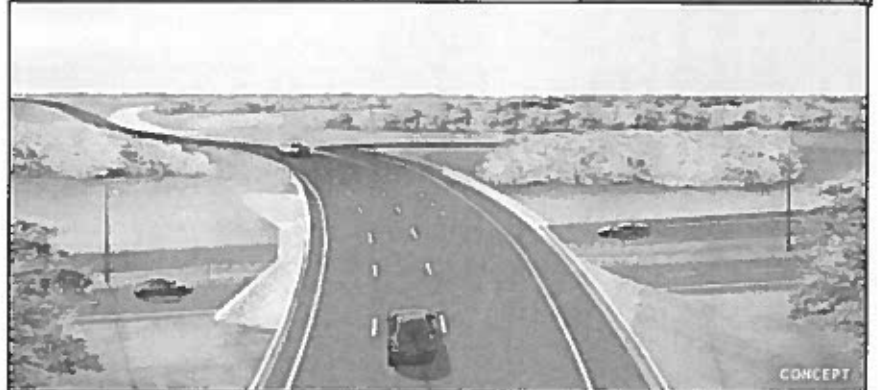
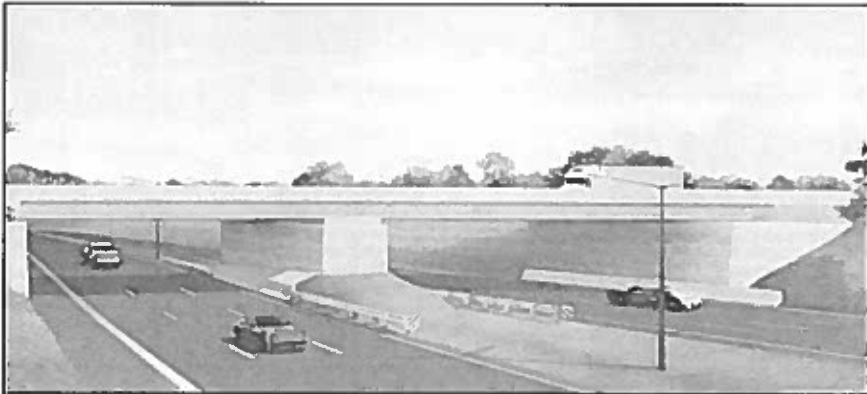
Campus-Operations:

- Testing Support
- Convening for Standards
- Cybersecurity Lab
- Education
- Technology Park



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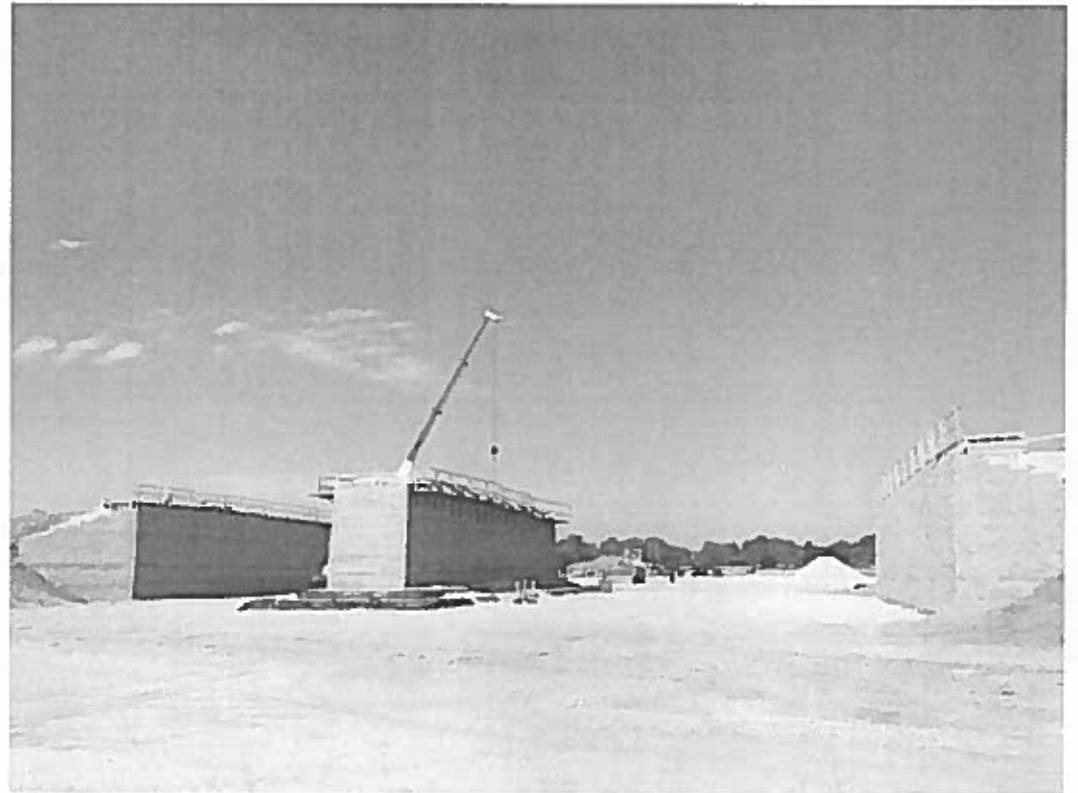
ACM Highway Loop



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Construction Update

- Opening December 2017



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CAMPUS CONCEPT RENDERING
FOR REFERENCE



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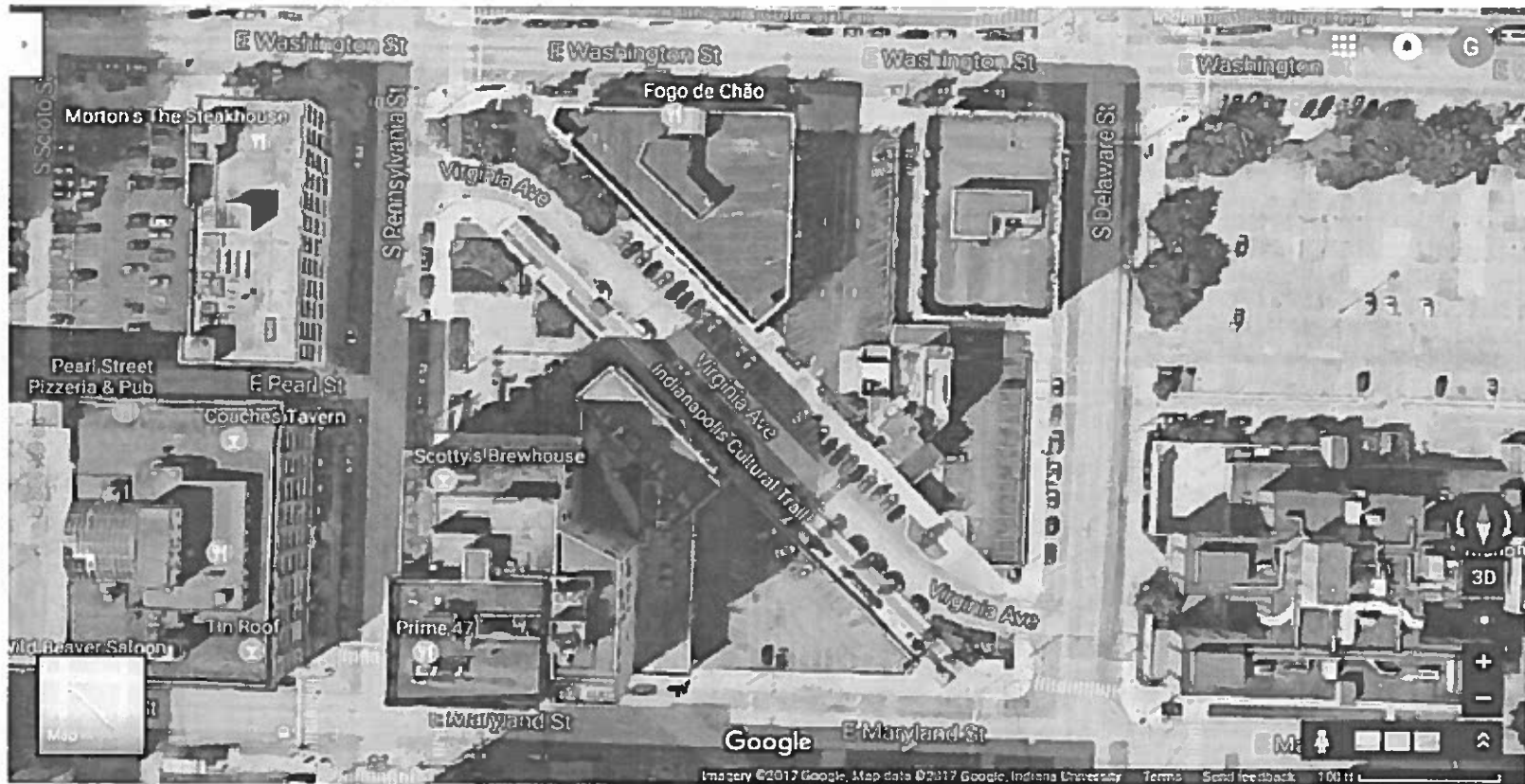
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Vehicle Development Labs/Garages



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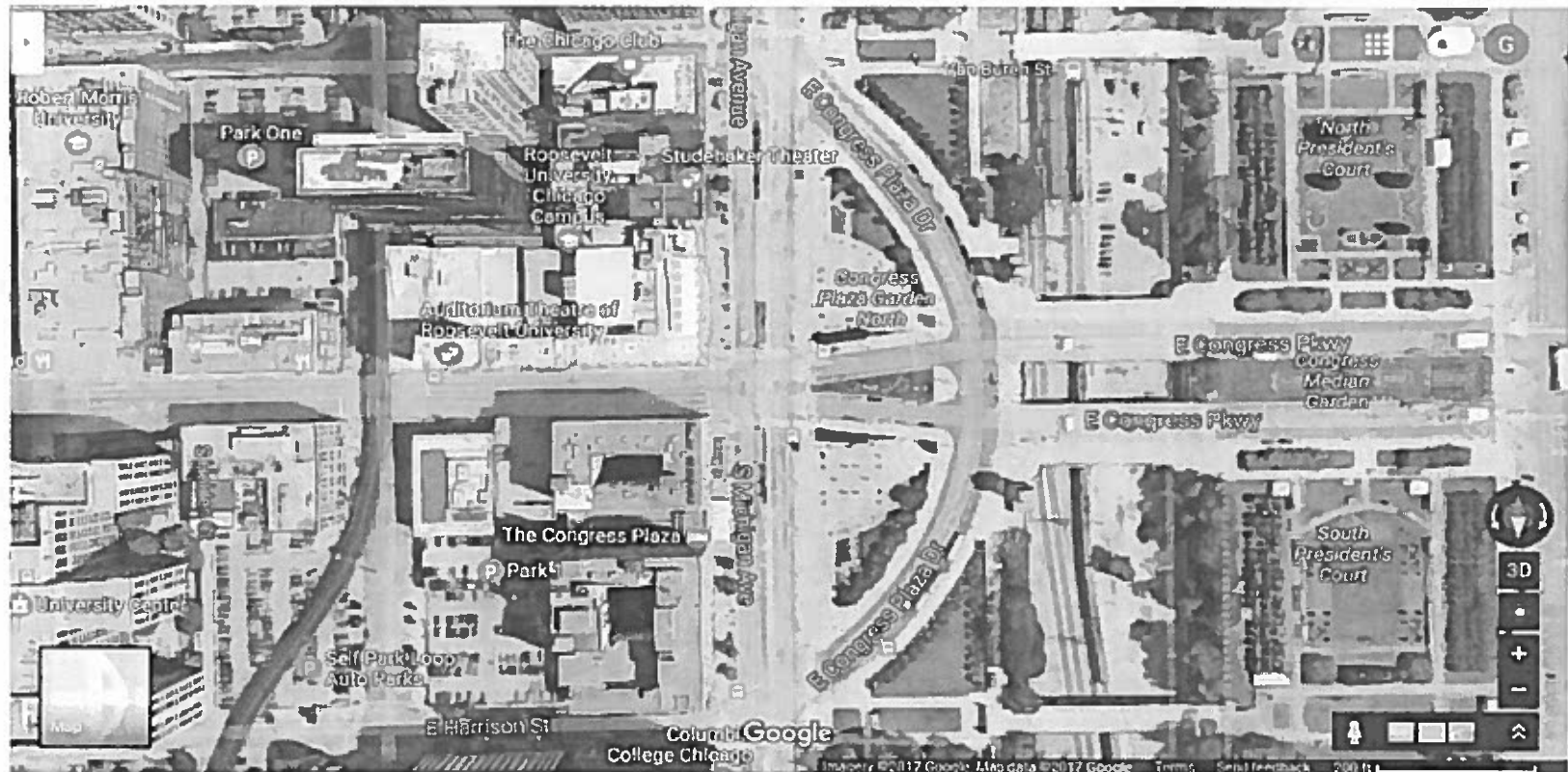
Indianapolis



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Chicago



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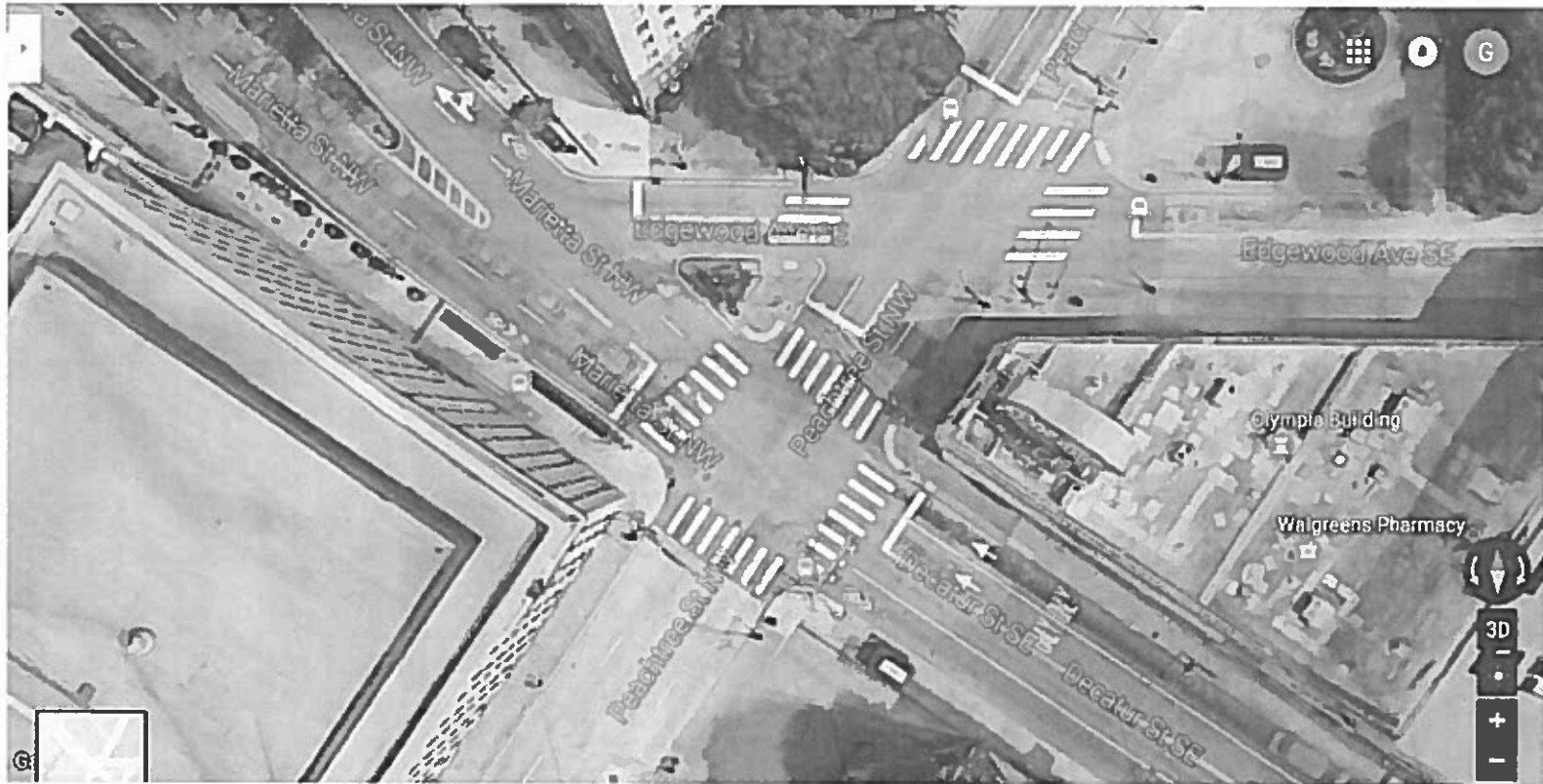
Washington D.C



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Atlanta



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Pillars of Activities

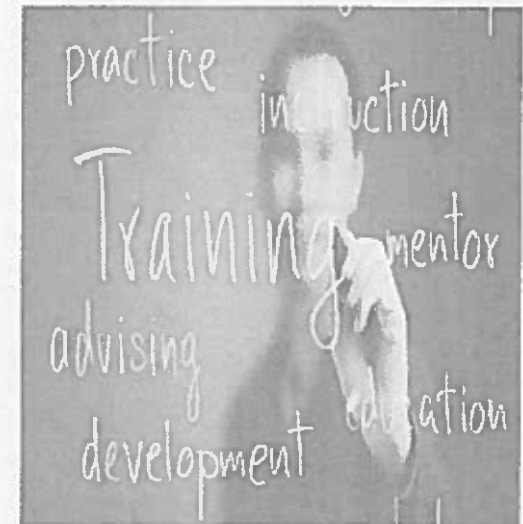
TESTING



STANDARDS



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ACM Test and Validation Standards

- ✓ Announced partnerships with SAE and ITE – June 2017
- ✓ Conducted workshop with SDOs and industry technical experts
- ✓ Focused on gaining consensus and prioritization for CAV testing, validation, and verification requirements & standards

□ Agreed next steps:

1. Share challenges & problem situations encountered
2. Create scenario and outcome “catalog”
3. Develop test methods and procedures for scenarios and challenges



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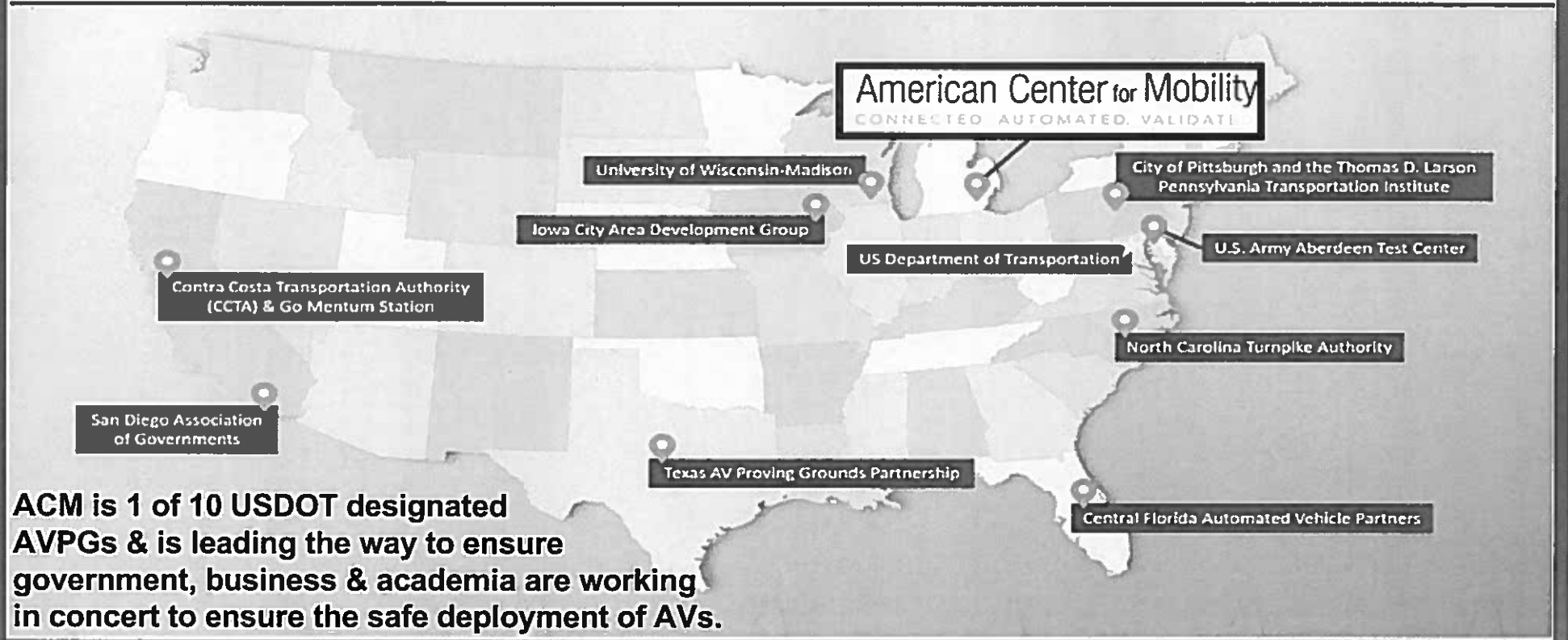
Reps. Dingell, Latta Highlight Self-driving Vehicle Legislation at ACM

- ✓ Congresswoman Debbie Dingell (MI-12) and U.S. Congressman Bob Latta (OH-05), Chair of the Subcommittee on Digital Commerce and Consumer Protection are working to advance automated vehicle legislation through the House Energy and Commerce Committee.
- ✓ Last week they toured ACM to learn about the groundbreaking work on automated vehicle testing, evaluation and standard setting.
- ✓ The Reps. were joined by ACM CEO John Maddox, SAE and industry partners to discuss how to best support the safe deployment of AVs and how the SELF DRIVE Act will impact the future of mobility in the United States and save lives on the road.



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U.S. DOT'S TEN PROVING GROUND DESIGNEES



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Pillars of Activities

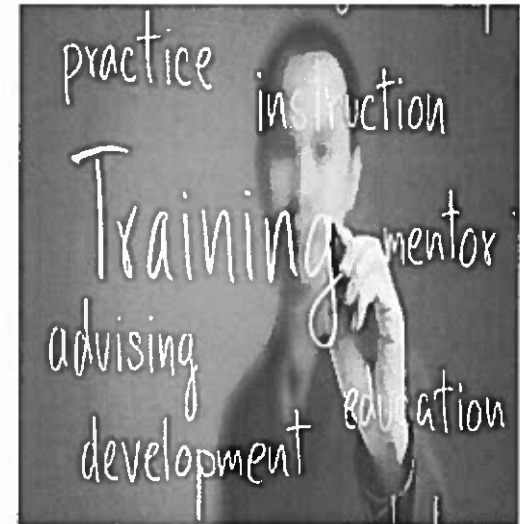
TESTING



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Education @ ACM

K-12



Workforce



Public



Career
Retraining



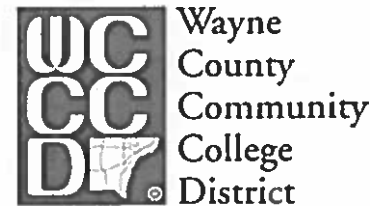
Colleges/
Universities



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ACM Academic Consortium



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Career Programs Needed



- Connected and automated vehicle (CAV) Repair and Maintenance Technicians
- Sensor
- Traffic Signal Repair and Maintenance
- Roadside Unit (RSU) Repair and Maintenance
- ITS Infrastructure Engineering
- Accident Forensics
- "Ground Traffic Controller"
- First Responder Training
- Urban planning
- Paratransit support
- Traffic Engineer
- Mapping and Geopositioning
- Software & Network Configuration
- Training the "Cable Guy"
- Data Center
- 3P Application Developer
- Customer Support for OTA Updates



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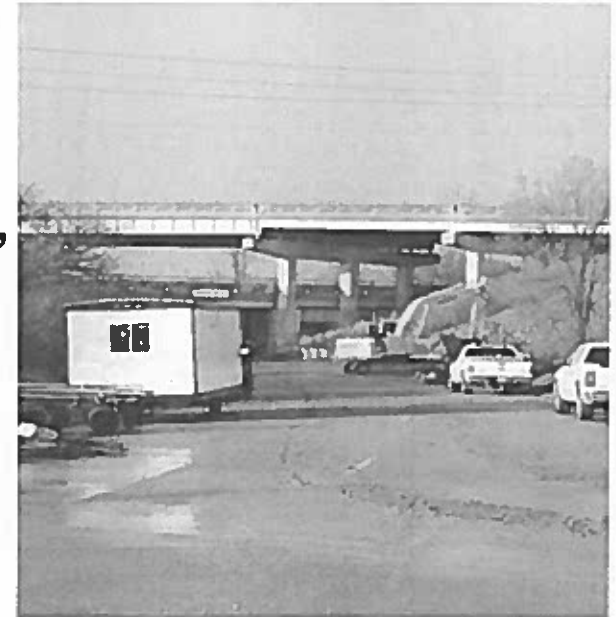
Transportation Access



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ACM Milestones

- ✓ Mar 2016 **ACM formed**
- ✓ Jan 2017 **USDOT designates ACM as
National AV Proving Ground**
- ✓ Mar 2017 **ACM hosts President Trump, USDOT,
EPA, Gov. Snyder, 12 auto CEOs**
- ✓ Apr 2017 **Supporting Construction started**
- ✓ May 2017 **Phase 1 construction begins**
- ❑ Aug 2017 **Phase 1 50% complete**
- ❑ Dec 2017 **Phase 1 open for testing**



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ACM Funding

- ✓ July 2016 \$20M from Michigan Strategic Fund
- ✓ Dec 2016 \$15M for MDOT to repurpose US12
- ✓ Apr 2017 \$30M 2nd round MEDC/MSF
- ✓ July 2017 \$26M Private investment to date

✓ \$91M secured investment to date

- Sep 2017 Form Industry Advisory Board



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Industry Supporters



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Institutional Supporters



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Thank you.

The American Center for Mobility is a joint initiative with the State of Michigan founded in partnership with the Michigan Department of Transportation, the Michigan Economic Development Corp., the University of Michigan, Business Leaders for Michigan and Ann Arbor SPARK.

